

STANFORD UNIVERSITY MEDICAL CENTER

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DEPARTMENT OF BIOCHEMISTRY

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July 5, 1979

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Dear Marianne,

This is a follow-up to the letter I sent awhile back about the translation of the globin sequence in SV40. I enclose a copy of the paper given at the ICN Conference last March.

The result with SVGT5- $\beta$ G is not unexpected; we assume but should test that  $\beta$ G is being made off the smaller mRNA and not off the larger one (that is the case for the natural coding sequence VP1). The result with SVGT9- $\beta$ G is also consistent with the expectation that translation occurs only from the first AUG after the leader sequence but other experiments are needed to determine if any translation starts at the internal  $\beta$ G AUG; we expect no globin is made from the larger mRNA. The paradox comes from the recombinant SVGT7- $\beta$ G. Here we expect only one class of mRNA, the large one, although the large mRNA may actually be a family of mRNAs some of which have the splice in front of the first AUG (as shown in Fig. 4) and others with the splice behind the first AUG so as to make the second AUG (the one coding for VP3) the first one after the leader. In either case we would not have expected the  $\beta$  globin sequence in either mRNA to be translated. Yet  $\beta$  globin is clearly made. Moreover, we do find a new small mRNA containing the globin sequence and a bit of leader sequence. According to all we know there is normally no splice from the leader to a position behind the second AUG but maybe under certain conditions that does occur. If it does then the formation of  $\beta$  globin from such a mRNA would not violate the Jacobson-Baltimore rule. We are doing further experiments to characterize this mRNA and also to produce other kinds of recombinant where the  $\beta$  globin AUG is or is not the first from the cap. Those answers will be along soon.

I thought we would have an answer about whether recombinants in which various parts of the 5' - noncoding region of the  $\beta$  globin cDNA have been deleted (by Charles Weissmann) still make globin. But those recombinants are still being grown or characterized and the infections have not yet been

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done. When that information is available I'll send it along.

Hope all is well with you and the family. Have a good Summer.

With best regards,

Sincerely

A handwritten signature in cursive script, appearing to read "Paul". The signature is written in dark ink and is positioned below the word "Sincerely".

PB:vs

Signed in Dr. Berg's absence.